

Remarks

Reconsideration of the present application is respectfully requested.

Claims 1, 4–11, 14–19 and 21 are pending in this application. The applicants amended claims 1 and 11 to better describe their invention.

Of previously pending claims 1, 4-11, 14-19, and 21, all were rejected. Claims 1, 4-8 and 14-17 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,631,144, which issued October 7, 2003 to H.I. Johansen, in view of U.S. Patent No. 6,754,171, which issued June 22, 2004 to D.J. Bernier *et al.* Claims 9, 10, 18, 19, and 21 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,631,144, which issued October 7, 2003 to H.I. Johansen and over U.S. Patent No. 6,754,171, which issued June 22, 2004 to D.J. Bernier *et al.* as applied to claims 1 or 11 above, and further in view of U.S. Patent No. 6,188,692, which issued February 13, 2001 to C.K. Huscroft *et al.*

The applicants respectfully disagree with these rejections and address them with respect to independent claims 1 and 11.

Independent Claim 1 and Corresponding Dependent Claims

Claim 1 was rejected by the combination of the Johansen and Bernier references. Claim 1 recites:

A method for operating a line-card having a transponder and a transceiver for an asynchronous data transmission standard to relay data in accordance with a synchronous data transmission standard, said method comprising:

receiving a remotely transmitted signal formatted in accordance with said synchronous data transmission standard by said transponder;

recovering a clock signal from said remotely transmitted signal by said transponder;

in a first mode, directing said recovered clock signal to a clock input of said transceiver;

in a second mode, directing a locally generated clock to said clock input of said transceiver; and

switching from said first mode to said second mode upon loss of said remotely transmitted signal or upon loss of recovered framing in said remotely transmitted signal.

In rejecting claim 1, the Examiner stated:

For claim 1, Johansen teaches receiving a remotely transmitted signal

formatted in accordance with the synchronous data transmission standard by the transponder (see column 2 lines 20 -25; the multi-rate transponder receives an incoming data stream); recovering a clock signal from the remotely transmitted signal by the transponder (see column 2 lines 28 -33, from the incoming data stream the clock signal is recovered); in a first mode, directing the recovered clock signal to a clock input of the transceiver (see column 2 lines 39 -42; a clock signal is generated based on the received incoming data stream and will switch between the different data rates modes of the incoming data stream). Johansen fails to teach in a second mode, directing a locally generated clock to the clock input, and switching from the first mode to the second mode upon loss of the remotely transmitted signal or upon loss of recovered framing in the remotely transmitted signal. Bernier from the same field of endeavor teaches that a link loss will trigger a switch from the primary clock to a local clock for the port (see column 2 lines 16 -25 and column 8 line 57 -column 9 line 7). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to switch to a second mode as taught by Bernier into the multi-rate transponder of Johnson. The motivation for doing this is to improve the efficiency of the system by minimizing packet drops during clock failures.

The cited references, neither singly nor in combination, do not render the applicants' claim obvious.

The cited Johansen patent describes a transponder and its components, not “a line card having a transponder and a transceiver,” as called for in claim 1. Johansen describes his invention in the following context; “In high-speed digital communications systems, transponder chip sets, typically comprising a receiver chip and a transmitter chip, are utilized to amplify and reshape a, typically, distorted signal waveform of an incoming serial data stream or incoming data stream to provide a reshaped data stream outgoing data stream of nominal amplitude.” Col. 1, lines 23-28. And Johansen concludes, “Accordingly, it is desirable to provide a single transponder circuit, preferably as a chip set, and a corresponding transponder system that both support multi-rate data stream reception/transmission and also support one or several transport network bit rates at each selected nominal bit rate.” Col. 1, line 65 to col. 2, line 2. That transponder system and chip set is the subject of the Johansen patent, as reflected by its title, “Multi-Rate Transponder System and Chip Set.” In the context of the applicants' invention, the Johansen patent might be relevant to the transponder 104 portion of the applicants' line card illustrated in Fig. 1 of the present application.

As such, there is no “transceiver for an asynchronous data transmission standard” described in the Johansen patent, much less a step of “...directing said recovered clock signal to a clock input of said transceiver.” In citing col. 2, lines 28-33 of the Johansen patent, the Examiner is apparently confusing the transmitting part of the Johansen’s transponder system with the transceiver of the applicants’ line card. The receiving chip 100 and transmitting chip 300 are not transceivers, but part of Johansen’s transponder.

With respect to the cited Bernier patent, that reference does not describe “a line-card having a transponder and a transceiver for an asynchronous data transmission standard to relay data in accordance with a synchronous data transmission standard,” the same deficiency of the Johansen patent. The Bernier reference describes a network switching device which provides synchronized transmissions and protection from a distributed clock failure in a packet switched networks. Col. 2, lines 3-4. While the Bernier switching device is adaptable to different standards, it receives packet signals of one transmission standard and transmits the signals according to the same standard. It does not mix SONET/SDH and Ethernet applications as taught by the applicants.

Independent claim 1 also includes the step of “...directing a locally generated clock to said clock input of said transceiver.” Purportedly the Bernier patent at col. 2, lines 16–25 and col. 8, line 57 to col. 9, line 7 teaches this limitation. However, the applicants cannot find any reference of directing a locally generated clock to a clock input of a transceiver. In fact, nowhere in the Bernier reference do the applicants find a description of a “transceiver.”

Claim 1 also calls for, “switching from said first mode to said second mode upon loss of said remotely transmitted signal or upon loss of recovered framing in said remotely transmitted signal,” which is also supposedly taught in the Bernier patent. However, the applicants have been unable to find a description in the reference of “switching...upon a loss of recovered framing.” The reference does describe lost source clock switching events (see, e.g., col. 8, lines 47-48) and link fault interrupt switching events (see, e.g., col. 9, lines 35-38), but the applicants do not find a description of a “loss of recovered framing.”

Finally, the applicants are puzzled why it would be obvious for a person skilled in the art to “switch to a second mode as taught by Bernier into the multi-rate transponder of Johnson

[sic].” The Johansen transponder forms only one component of a line card and the Bernier network switching device has several boards (in the described network switch of the Bernier patent, there are 14 switch modules, each switch module having four network interface modules, each formed by a circuit board with three or four ports (see Fig. 2 and 3; col. 4, lines 35-36; col. 4, lines 58-60; col. 5, lines 6-15), in the manner suggested by the Examiner. At any rate, any possible combination does not teach the applicants' claim.

In summary, the combination of the cited Johansen and Bernier references does not teach nor describe the applicants' claim. Hence independent claim 1 is not obvious in view of the cited Johansen and Bernier references and should be allowable. Claims 4-11 and 21 should be allowable for at least being dependent upon an allowable base claim.

Independent Claim 11 and Corresponding Dependent Claims

Independent claim 11 was also rejected by the combination of Johansen and Bernier references. Claim 11 calls for:

Apparatus for operating a transceiver for an asynchronous data transmission standard to relay data in accordance with a synchronous data transmission standard, said apparatus comprising:

- a transponder that receives a remotely transmitted signal formatted in accordance with said synchronous data transmission standard and recovers a clock signal from said remotely transmitted signal;
- a local clock source; and
- a multiplexer that, in a first mode, directs said recovered clock signal to a clock input of said transceiver and, in a second mode, directs output of said local clock source to said clock input, said multiplexer switching from said first mode to said second mode upon loss of said remotely transmitted signal and switching from said first mode to said second mode upon loss of recovered framing in said remotely transmitted signal.

In rejecting claim 11, the Examiner reasoned:

For claim 11, Johansen teaches a transponder that receives a remotely transmitted signal formatted in accordance with the synchronous data transmission standard and recovers a clock signal from the remotely transmitted signal (see column 2 lines 20-25; the multi-rate transponder receives an incoming data stream); in a first mode, directs the recovered clock signal to a clock input of the transceiver (see column 2 lines 39-42; a clock signal is generated based on the received incoming data stream and will switch between the different data rates modes of the incoming data stream). Johansen fails to teach in a second mode, directs output of the local clock source to the clock input, the multiplexer switching from the first mode to the second mode upon loss of the remotely

transmitted signal and switching from the first mode to the second mode upon loss of recovered framing in the remotely transmitted signal. Bernier from the same field of endeavor teaches that a link loss will trigger a switch from the primary clock to a local clock for the port (see column 2 lines 16-25 and column 8 line 57-column 9 line 7). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to switch to a second mode as taught by Bernier into the multi-rate transponder of Johnson. The motivation for doing this is to improve the efficiency of the system by minimizing packet drops during clock failures.

The rejection of claim 11 fails for the same reasons as explained above. Neither the Johansen and Bernier patents describe “an [a]pparatus for operating a transceiver for an asynchronous data transmission standard to relay data in accordance with a synchronous data transmission standard.”

Additionally, the limitations of claim 11 are not found in the cited references. The Examiner cites Johansen, col. 2, lines 39–42 as teaching the limitation of “a multiplexer that, in a first mode, directs said recovered clock signal to a clock input of said transceiver.” But as pointed out above, there is no teaching that “directs said recovered clock signal to a clock input of said transceiver.” There is no transceiver within the Johansen reference. Nor does the cited Bernier reference have such a limitation.

The Examiner cites the Bernier patent as teaching the limitation, “a multiplexer that ...in a second mode, directs output of said local clock source to said clock input, said multiplexer switching from said first mode to said second mode upon loss of recovered framing in said remotely transmitted signal.” But as pointed out earlier, the applicants do not find any description of directing a local clock to a clock input of a transceiver, nor do the applicants find any description of “switching from said first mode to said second mode upon loss of recovered framing in said remotely transmitted signal.”

Finally, the same objections to the combination of the two cited references apply, as argued above.

Hence independent claim 11 should be allowed over the cited prior art. Claims 14–19 should be allowable for at least being dependent upon allowable base claims.

Therefore, in view of the remarks above, the applicants respectfully request that all rejections be withdrawn, that claims 1, 4–11, 14–19, and 21 be allowed, and the case be passed to issue. If a telephone conference would expedite prosecution of this application, the Examiner is asked to contact the undersigned at (408) 868-4088.

Respectfully submitted,

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